

You will need an EarthComm book turned to pg. U-70.

IWBAT understand the characteristics of high-gradient and low-gradient streams through shared reading, class discussion, and written responses to questions. I will use vocabulary such as gradient, discharge, headwaters, meander, and river.

Water Resources Unit

Activity I p. U-70

Think About It

Dangerous/rough	calm/safe
downhill/fast	flat/slow
Rocky/bumpy	Clean/smooth
Kayaking	rafting
drowning	animals

Digging Deeper

- Rivers are water flows in a large channel and streams are usually in a small natural channel. Very small streams are often called brooks or creeks.
 - The headwaters are the farthest part of the river from the mouth. The slope of a river is its gradient and is expressed as a loss in elevation. The headwaters are usually found in steep land.
 - High gradient streams can move very large particles on the streambed during floods because of the high velocity of the water.
 - High gradient streams can cut vertical walled canyons. Weathering loosens material on valley slopes. The stream carries material downstream. Downcutting is the formation of a valley by a stream.
- IWBAT understand the characteristics of high-gradient and low-gradient streams through shared reading, class discussion, and written responses to questions.

Water Resources Unit

Digging Deeper

- Stream discharge is the volume of water passing a point in the river in a unit of time. It is calculated by multiplying the velocity of the water by the cross sectional area of the channel (not easy to measure).
- Spring rains and snowmelt cause seasonal increases in stream discharge and occasionally result in major floods. Dry periods cause a reduction in stream discharge. Cooler countries with more snowmelt tend to have more floods.

IWBAT understand the characteristics of high-gradient and low-gradient streams through shared reading, class discussion, and written responses to questions.

Water Resources Unit

Think About It Activity II p. U-81

Property damaged/destroyed
Lives in danger/lost
Excess water (rain, snowmelt)
too much for streams, reservoirs, soaking in, evaporating
so it flowed across the land

Digging Deeper

- Low gradient streams erode sideways as well as downward making valleys wider. High gradient streams' energy is focused on downcutting leaving little to no floodplain.
- Streams in lower parts of a river system have lower gradients. Since valley width increases as stream discharge increases, this shows that rivers widen their valleys. They have wider channels and larger floodplains than farther up in the river system.
- A meandering stream has curves (meander bends) that loop back and forth on a wide floodplain. Water velocity is greatest on the outside of a bend and erodes the land there. Lower velocities on the inside of a bend lead to sediment deposits. The floodplain is made of sediments from the stream and floods.

IWBAT understand the characteristics of high-gradient and low-gradient streams through shared reading, class discussion, and written responses to questions.

Water Resources Unit

Digging Deeper

- Each flood deposits sediment on the inside of a meander bend forming a ridge no more than a meter or so high. These ridges are called meander scars.
- As a meander bend grows wider, its neck usually becomes narrower. A flood can cut across the neck to take a more direct route downstream. The meander bend becomes abandoned and the ends fill with sediment. The abandoned bend becomes a curved lake called an oxbow lake which will fill with sediment eventually. Meander bends and oxbow lakes are characteristics of a low gradient stream.
- Water can be diverted from the stream to groundwater, evaporation, municipal water supply, or irrigation. Precipitation in the drainage basin is the main factor in stream discharge. Snowmelt, water from reservoirs, and groundwater contribute to stream flows.

IWBAT understand the characteristics of high-gradient and low-gradient streams through shared reading, class discussion, and written responses to questions.

Water Resources Unit

Digging Deeper

- Stream flow is connected to the groundwater system. Some precipitation runs over the surface, but some soaks into the soil to join the groundwater system in the aquifer. Water from an aquifer is a major source of water for many rivers. This water is referred to as a base flow. This can charge a stream long after precipitation has stopped because water flows much more slowly through rock than across the surface.
- Flooding occurs on a low gradient stream when the discharge exceeds the channel's capacity. Stream discharge changes seasonally because of seasonal changes in precipitation. Most snowmelt flows directly into the streams or the groundwater (which feeds the streams) during warm weather. This adds to discharge from other streams resulting in flooding for the low gradient section of the stream. During hot summer months water is lost to evaporation and growing vegetation reducing the risk of flooding.

IWBAT understand the characteristics of high-gradient and low-gradient streams through shared reading, class discussion, and written responses to questions.

Activity 3 p. U-90

IWBAT understand the effect of stream velocity on sediment loads through shared reading, class discussion, and written responses to questions. I will use vocabulary such as turbulence, sediment, and velocity.

Water Resources Unit

Activity 3 p. U-90

Think About It

big rocks move w/ fast water or large volumes of water
 small rocks - don't require fast water or large volumes of water to move
 Steeper, more volume (precipitation), land surface

Digging Deeper

- Sediments come in different sizes. Sand and gravel are easy to measure, but silt and clay are too small to easily measure.
- Most clay-sized materials are made of tiny plates of clay minerals. Most sand is made of the mineral quartz because it resists dissolution and abrasion.
- Fine sediment particles like clay and silt travel along suspended in the water of the stream. This suspended sediment is held up by turbulence in the water. The swirls of turbulence are called eddies. Gravel-sized particles travel along the bottom of the stream by bouncing, sliding, and rolling and are called the bedload. Whether the sediment is suspended or bedload depends on the size of the sediment and the velocity of the stream.

IWBAT understand the effect of stream velocity on sediment loads through shared reading, class discussion, and written responses to questions. I will use vocabulary such as turbulence, sediment, and velocity.

Water Resources Unit

Digging Deeper

- There is a maximum size of particle which can be moved with a particular velocity of stream flow.
- The higher the flow velocity, the more frequent and harder the collisions between particles in a stream. Small particles like silt are carried in suspension and can "sandblast" other particles; this rounds down larger particles which are not in constant motion.
- Rocks with layering or other weaknesses break down more quickly than uniformly strong rocks. Calcite is the only common mineral that dissolves readily in streams. Rocks can be reduced in size via dissolution. Rocks made of softer minerals round more rapidly than those composed of harder minerals.
- Breakage of larger particles to make smaller particles is more important than abrasion and dissolution in downstream fining. The decrease in sediment size farther down the stream course is downstream fining.

IWBAT understand the effect of stream velocity on sediment loads through shared reading, class discussion, and written responses to questions. I will use vocabulary such as turbulence, sediment, and velocity.

Water Resources Unit

01/31/18

Activity 4 p. U-100

IWBAT understand the parts of a river system and the effects of river systems on communities through shared reading, class discussion, and written responses to questions. I will use vocabulary such as tributary, drainage basin, and drainage divide.

Water Resources Unit

Activity 4 p. U-100

Think About It - Google a leaf image to describe

Need water to live
Variety of paths, all come together somewhere, water flows through both, some are small + some are big
Changing patterns, not really straight, both a kind of alive
they feed plants + animals, have a maximum capacity
leaves smaller than streams, streams can carry more weight
leaf needs sun, leaves' veins don't erode other things
veins flow big → small + rivers small → big

Digging Deeper

- A river system has three parts: a tributary system, a trunk stream, and a distributary system. A tributary system consists of many small streams which flow together into a larger stream. These are often in mountainous areas. A trunk stream is a major river fed by large tributaries. A distributary system is a group of channels near the end of a river where it deposits carried sediments.
- All parts of all river systems have one thing in common: water flows down hill. In some areas of the western US, rivers flow into large depressions rather than into oceans, some below sea level. In Alaska, rivers may flow into the Arctic Ocean.
IWBAT understand the parts of a river system and the effects of river systems on communities through shared reading, class discussion, and written responses to questions. I will use vocabulary such as tributary, drainage basin, and drainage divide.

Water Resources Unit

Digging Deeper

- A drainage basin is an area in which all of the rain that falls goes via streams to the same final destination. Along the east coast, many of the rivers flow south and east directly into the Atlantic Ocean.
- The largest river system in the USA is the Mississippi River system which enters the Gulf of Mexico downstream from New Orleans collects water from a huge part of North America.
- Hilltops and mountains serve as boundaries between drainage basins. There are divides between streams of all sizes within the river system.
- Rivers provide a source of water for drinking, domestic, and industrial use as well as irrigation of farm lands. Several major cities in the US allowed human waste to enter the waterways as a part of their disposal system.
- River transportation is relatively cheap for carrying large amounts of heavy materials.
- Americans used the energy of flowing water to turn wheels to provide power to cut wood and grind wheat. Now they use hydroelectric power plants. These plants are common in the USA, which has harnessed much of its hydroelectric power.
- Dams are also used to control water flow. The water held behind dams can be used for agricultural irrigation and domestic use. Dams lessen the impact of flooding.
- Rivers also provide recreation (swimming, boating, fishing, kayaking, canoeing, etc.).
- Water moving downhill toward the ocean erodes soil and carries it towards the coast lowering the level of mountains and giving the Earth's surface its shape. Even in deserts where water is scarce, rainstorms are important.

IWBAT understand the parts of a river system and the effects of river systems on communities through shared reading, class discussion, and written responses to questions. I will use vocabulary such as tributary, drainage basin, and drainage divide.

Activity 5 p. U-113

IWBAT understand river systems as a part of the earth system through shared reading, class discussion, and written responses to questions. I will use vocabulary such as reservoir, flux, and outflow.

Poderé comprender los sistemas fluviales como parte del sistema terrestre a través de la lectura compartida, la discusión en clase y respuestas escritas a las preguntas. Usaré vocabulario como reservorio, flujo y flujo de salida.

Water Resources Unit

Activity 5 p. U-113

Think About It

Size of the rocks, Stream width & depth, slope of the land, kinds of plants, flat land vs. narrow valley, look for water resources/sources, wildlife, height of water compared to the shore, look for flood evidence

Digging Deeper

- Water can exist in three different physical states: solid, liquid, gas. Water is stored in various reservoirs and moves from one reservoir to another. Fluxes can be inflows or outflows. Fluxes are the movement of energy or matter from one reservoir to another.
- Streams are dynamic and always changing. Changes in the amount of water result in changes in stream flow affecting transportation and deposition in the stream. These changes affect how the streams interact with the geosphere, biosphere, atmosphere, and hydrosphere. Changes in any part of the stream can cause changes in other parts of the stream.
- Filling a sink from a faucet is like filling a reservoir from a stream. The water level in the reservoir can increase until the water spills over the sides and floods if water enters faster than it can drain. Two ways of outflow are a drain and flooding. As the inflow increases, the outflow increases.

IWBAT understand river systems as a part of the earth system through shared reading, class discussion, and written responses to questions. I will use vocabulary such as reservoir, flux, and outflow.

Water Resources Unit

Digging Deeper

- Reservoirs in a stream system include lakes, streams, the atmosphere, biosphere, groundwater, and surface water. A period of heavy rainfall creates an increase in influx into reservoirs like streams and lakes. The system responds by filling the reservoirs and increasing their outflows. Increased outflows from reservoirs becomes greater inflow for streams. If a stream/reservoir is filled faster than it can drain, it can flood. Effects of flooding include damage to vegetation, undercutting of stream banks, increased sediment transportation inside and outside the stream channel.
- There can be subtle natural changes in stream flows. Warmer temperatures cause an increase in evaporation. Vegetation absorbs water. These can result in lower stream flows.
- Urbanization is the process for converting natural areas to human use. Paving limits the inflow of precipitation into groundwater reservoirs so it flows as surface water into streams and can cause flooding. Diverting water for irrigation reduces stream flows.

IWBAT understand river systems as a part of the earth system through shared reading, class discussion, and written responses to questions. I will use vocabulary such as reservoir, flux, and outflow.

Water Resources Unit

Unit 4: Chapter 3 (p. R-144)

Visuals (Graph/chart/table/picture)

Answer the questions

↳ Evidence

↳ Justification

XC-Rebuttals

Quality of writing (Citations)

Position - for or against

IWBAT understand what is required of us during the preparation for and execution of the chapter challenge performance task. I will do this through shared reading and class discussion. I will use vocabulary such as residential, development, and supply.

Water Resources Unit

Unit 4: Chapter 3: Activity 1 (p. R-146)

I will generate a graphical model of the transport of water between reservoirs within the water cycle. I will use vocabulary such as precipitation, transpiration, and evaporation.

Generaré un modelo gráfico del transporte de agua entre embalses dentro del ciclo del agua. Usaré vocabulario como precipitación, transpiración y evaporación.

Water Resources Unit

Unit 4: Chapter 3: Activity 1 (p. R-146)

The activity is located in your Schoology for this class,
Unit 3 Water Resources, Week 3, Ch 3 Activity 1.

La actividad está ubicada en su Schoology para esta clase,
Unidad 3 los Recursos Hídricos, Semana 3, Ca 3 Actividad 1

**Skip Part A.
Omitir parte A.**

I will generate a graphical model of the transport of water between reservoirs within the water cycle. I will use vocabulary such as precipitation, transpiration, and evaporation.

Water Resources Unit

Unit 4: Chapter 3: Activity 1

Think about it

everything evenly gets 1" of water
2715 gal / acre
into the ground collected rivers, lakes
evaporated run into drains drunk up by animals
plants take it up

Digging Deeper

- Water is the only common substance that exists at the Earth's surface as a solid, liquid, and a gas. Water is obvious in the forms of lakes, rivers, and the ocean. Water is present everywhere on Earth.
 - Water is in a continuous state of change and movement called the water cycle. The water cycle at the Earth's surface forms a closed system where materials move from place to place with no gains or losses. Some water is buried in sediments and is locked away for a geologically long time. Any gains or losses are insignificant when compared to the total water supply
 - The balance between evaporation & precipitation varies by location and over time. There is more precip. than evaporation over the continents. There is more evaporation than precip. over the surfaces of the oceans.
 - If the air cools enough, water vapor will condense to form droplets. If they are close to the ground, they form fog. At higher altitudes they form clouds.
- I will generate a graphical model of the transport of water between reservoirs within the water cycle. I will use vocabulary such as precipitation, transpiration, and evaporation.

Liquid
Solid
Vapor

Water Resources Unit

Digging Deeper

- When rain falls, some water flows under the pull of gravity into streams and lakes and is called surface runoff. Some water evaporates.
- Some precipitation soaks into the ground instead of evaporating or running off. The water reaches a zone where all the porous spaces are filled with water and is called groundwater. Soil moisture is water in the surface layer of soil.
- Plants absorb soil moisture and release the water into the atmosphere via transpiration.
- Each year about 36,000 cu.km of water flows into the oceans from the land surface. This water carries sediment and dissolved minerals into the oceans. The ocean water evaporates and leaves salty water behind.
- While the total amount of water in the system is constant, the amounts in the reservoirs vary with time. For example, groundwater is in greater quantities in the spring and less in the summer.

I will generate a graphical model of the transport of water between reservoirs within the water cycle. I will use vocabulary such as precipitation, transpiration, and evaporation.

Water Resources Unit

Unit 4: Chapter 3: Activity 2 (p. R-156)

IWBAT discuss the sources of domestic water through shared reading, class discussion, and written responses to questions. I will use vocabulary such as aquifer, aqueduct, and permeability.

Seré capaz de discutir las fuentes de agua doméstica a través de la lectura compartida, discusión en clase y respuestas escritas a las preguntas. Utilizaré vocabulario como acuífero, acueducto y permeabilidad.

Water Resources Unit

Unit 4: Chapter 3: Activity 2

Think About It (p. R-156)

Use less water, stop littering and polluting, more than one source, store water for later
groundwater, more plentiful than surface water
during a drought, surface water goes into the ground & evaporates, fewer ppl use gw.

Investigate - Part C (R-161)

1a, c-f)

Parker: 123 gal/person/day

Denver: 83-120 gal/person/day

Greely: 160 gal/person/day

Westminster: 100 gal/person/day

IWBAT discuss the sources of domestic water through shared reading, class discussion, and written responses to questions. I will use vocabulary such as aquifer, aqueduct, and permeability.

Water Resources Unit

Unit 4: Chapter 3: Activity 2

Digging Deeper - p. R162

- Water must be collected, stored, and treated. There must be enough water to get through times of drought and times of high use. The two main sources are surface water (e.g. lakes & rivers) and groundwater.
- There are six ways to increase water supply: groundwater aquifers, rivers & lakes, dams to make reservoirs, water conservation, distant water via aqueducts, converting salt water to fresh water. Taking water decreases water available to towns downstream.
- Reservoirs behind dams displace wildlife and people and cover cropland, but they are a reliable source of water and control floods. Over time the reservoir can fill with sediment leaving less room for water. Dams disrupt the natural migration of fish.
- The best aquifers consist of loose and porous sand and gravel, but fractured bedrock will work, too. Groundwater from these aquifers is pumped from below the surface.
- Down to a certain depth below the surface, the pores of the materials are filled with air except when heavy rains percolate downward. This is the unsaturated zone. The saturated zone is where the pores are filled with water. The top of this zone is called the water table. Groundwater moves from where the water table is higher to where it is lower. Moving through small pores causes it to move slowly, as slow as 1m/yr.

IWBAT discuss the sources of domestic water through shared reading, class discussion, and written responses to questions. I will use vocabulary such as aquifer, aqueduct, and permeability.

Water Resources Unit

Unit 4: Chapter 3: Activity 2

Digging Deeper

- In rural areas, homes and small cities obtain their water from wells down into the aquifer. In an unconfined aquifer, recharge happens by downward percolation of local precipitation and surface water.
- Some aquifers are isolated by an impermeable layer called an aquiclude. Confined aquifers cannot be recharged from directly above. The recharge area may be located tens or hundreds of kilometers away.
- In many areas where groundwater has been used for a long time, the land has subsided because so much water has been withdrawn.
- Water flows downhill under gravity, but in some places it must be pumped over hills & mountains. Aqueducts transport water from locations of abundance to where people want or need it to be.
- As desalination techniques improve and become more affordable, it will become a more important process for accessing fresh water. Desalination is the process of removing salt from seawater to make it potable.
- Water conservation is saving water to use later by using less water now.

IWBAT discuss the sources of domestic water through shared reading, class discussion, and written responses to questions. I will use vocabulary such as aquifer, aqueduct, and permeability.

Water Resources Unit

Unit 4: Chapter 3: Activity 3

p. R-169

IWBAT explain the difference between consumptive and nonconsumptive use. I will do this through shared reading, class discussion, and written responses to questions. I will use vocabulary such as conservation and domestic.

Seré capaz de explicar la diferencia entre el uso consuntivo y no consumo. Lo haré a través de la lectura compartida, discusión en clase y respuestas escritas a las preguntas. Voy a utilizar el vocabulario, como la conservación y doméstica.

Water Resources Unit

Unit 4: Chapter 3: Activity 3

Think About It p. R-169

Schoolology discussion

Investigate - Part B

Denver: 1, 2, 3, 4, 5c, 5e

IWBAT explain the difference between consumptive and nonconsumptive use. I will do this through shared reading, class discussion, and written responses to questions. I will use vocabulary such as conservation and domestic.

Water Resources Unit

Unit 4: Chapter 3: Activity 3

Digging Deeper - p. R173

- Irrigation and thermoelectric are the largest uses of water in the USA (78%). Over one hundred billion gallons are used to irrigate crops every day.
- Consumptive water returns to the atmosphere as vapor and nonconsumptive returns to the environment as liquid after use.
- Common ways of increasing the water supply include dams/reservoirs, aqueducts/pipeline, and groundwater. In communities where new water sources are limited, water conservation programs are encouraged and become more important as the years go by.
- There are many ways of conserving water including low flow faucets and drip irrigation. Drip irrigation supplies water to plant roots through many small holes. Using mulch around plants helps conserve water. Xeriscaping saves water by using plants adapted to the area.

IWBAT explain the difference between consumptive and nonconsumptive use. I will do this through shared reading, class discussion, and written responses to questions. I will use vocabulary such as conservation and domestic.

Water Resources Unit

Unit 4: Chapter 3: Activity 4

p. R-177

IWBAT construct a water budget of my community from data, explain the influence of local climate on the water budget, and identify the times of year when the supply and demand of water are highest and lowest. I will do this via group discussion and constructing a graphical model using vocabulary such as budget, supply, and demand.

Podré construir un presupuesto de agua de mi comunidad a partir de datos, explicar la influencia del clima local en el presupuesto de agua e identificar las épocas del año en que la oferta y la demanda de agua son más altas y más bajas. modelo utilizando vocabulario como presupuesto, oferta y demanda.

Water Resources Unit

Unit 4: Chapter 3: Activity 4

Think About It p. R-177

Participate in the Schoology discussion.

Investigate - R178

30 min

Done in partners/small groups

Part A: Online research & graph creation

Part B: Construct a flow chart using data from the book

IWBAT construct a water budget of my community from data, explain the influence of local climate on the water budget, and identify the times of year when the supply and demand of water are highest and lowest.

Water Resources Unit

Unit 4: Chapter 3: Activity 4

p. R-177

Part A:

Part B:

IWBAT construct a water budget of my community from data, explain the influence of local climate on the water budget, and identify the times of year when the supply and demand of water are highest and lowest.

Water Resources Unit

Unit 4: Chapter 3: Activity 4

Digging Deeper - R180

- Water budget is a source of water supply and demand on how much water is divided for uses. water budging can also be useful to organize your thinking of water use.
- groundwater is a major water source of supply. riverbeds are dry during much of the year and flow during a storms, rain becomes groundwater, ground water supply is much of 40 % that flows of rivers and streams.
- discharge is measured in cubic feet per second or in some cases measured in cubic meters per second. Discharge varies greatly between time of drought and times of floods.
- cities and towns use river for water only a small fraction of the river discharge. Natural discharge of the river is greatly decreased.
- porous rock and sediment are saturated with groundwater. water table is the meaning of saturation. above the water table most pore spaces are occupied by air and below the pores spaces are filled of water that flows slow. the water table affects the height between dry spells and rainy spells in many meters.
- cone of depression is the shape of the well that more can't be put in as much as having any other wells.

IWBAT construct a water budget of my community from data, explain the influence of local climate on the water budget, and identify the times of year when the supply and demand of water are highest and lowest.

Water Resources Unit

Unit 4: Chapter 3: Activity 5

IWBAT identify and describe ways that human activity affects surface water and ground water. I will do this through group discussion, watching relevant videos, filling out a concept map, and write a short essay using vocabulary such as pollution, resources, and predict.

Seré capaz de identificar y describir las formas en que la actividad humana afecta a las aguas superficiales y subterráneas. Haré esto a través de la discusión en grupo, viendo videos relevantes, rellenando un mapa conceptual y escribiendo un ensayo corto usando vocabulario como contaminación, recursos y predicción.

Water Resources Unit

Unit 4: Chapter 3: Activity 5

Think About It - p. R184

Investigate - See your Schoology class

Water Resources Unit

Week 6

Activity 5 folder

Activity 5: Water Pollution

Investigar - Ver tu clase de Estudios

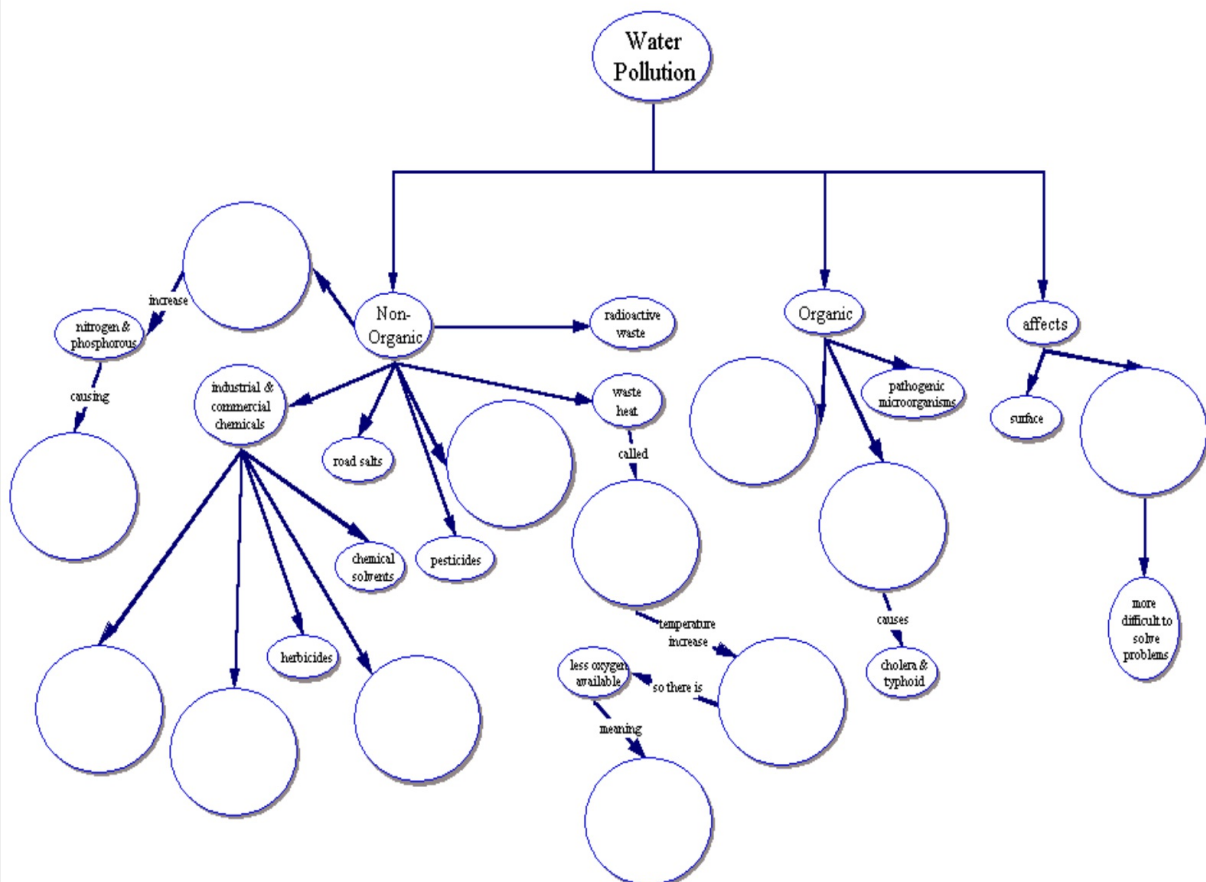
Unidad de Recursos Hídricos

Semana 6

Actividad 5 carpeta

Actividad 5: Contaminación del agua

IWBAT identify and describe ways that human activity affects surface water and ground water. I will do this through group discussion, watching relevant videos, filling out a concept map, and write a short essay using vocabulary such as pollution, resources, and predict.



Water Resources Unit

Unit 4: Chapter 3: Activity 5

Digging Deeper / Profundizando en el tema - R189

- Scientists try to make models to help them predict what will happen. If their predictions are correct, their hypotheses are likely correct.
- Surface water usually has a greater variety of pollutants than groundwater. It is usually more difficult to solve problems of groundwater pollution than those of surface water. Groundwater often contains larger amounts of each kind of pollutant.
- Most pollutants are either organic or non-organic.
- The majority of US homes are served by municipal sewage systems. Many illnesses like cholera and typhoid are caused by contact with untreated sewage. Coliform bacteria (mamalian intestinal bacteria) are generally not harmful, but is used as a signal of sewage contamination.
- Plants need inorganic chemical nutrients for growth. Excess nitrogen from human-made fertilizer can run off into the water system and cause algal blooms. When the algae dies, it robs the water of oxygen needed by animals to live.
- In areas where untreated/inadequately treated sewage finds its way into water supplies, nitrate levels can be excessive. Nitrates reduce the amouont of oxygen in the blood which can lead to "blue baby syndrome"/suffocation.
- Phosphate acts similar to nitrogen and causes algal blooms.

IWBAT identify and describe ways that human activity affects surface water and ground water. I will do this through group discussion, watching relevant videos, filling out a concept map, and write a short essay using vocabulary such as pollution, resources, and predict.

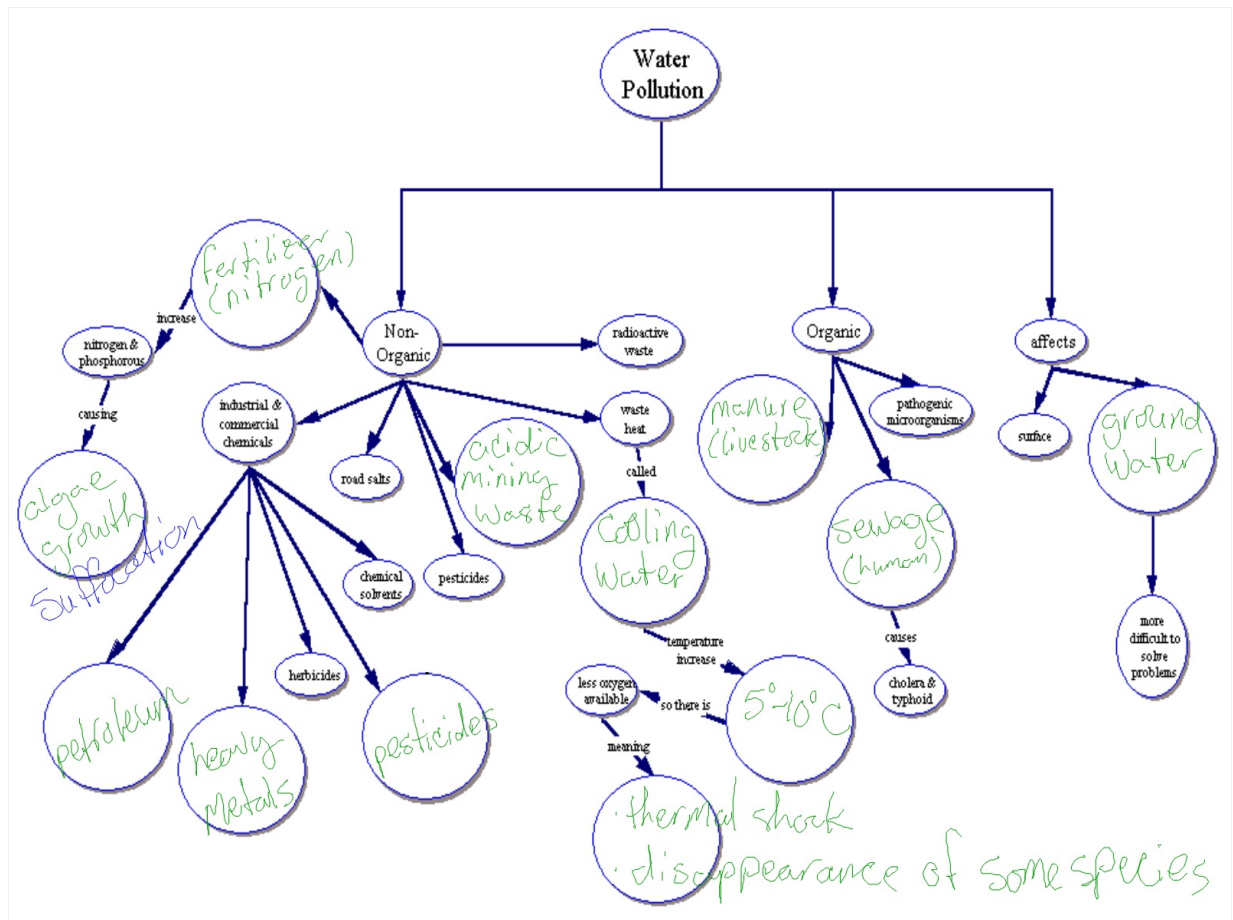
Water Resources Unit

Unit 4: Chapter 3: Activity 5

Digging Deeper / Profundizando en el tema - R189

- Many toxic substances find their way into water sources from daily use, illegal dumping, and storage in leaky containers.
- Sudden temperature changes can kill organisms via thermal shock. Warm water cannot hold as much oxygen as cooler water so there's less oxygen for aquatic animals. Higher temperatures can lead to the disappearance of some species and replacement with warmer water species.

IWBAT identify and describe ways that human activity affects surface water and ground water. I will do this through group discussion, watching relevant videos, filling out a concept map, and write a short essay using vocabulary such as pollution, resources, and predict.



Water Resources Unit

Unit 4: Chapter 3: Activity 5

Compose an essay explaining why water resources are important in Colorado. Summarize the water use in Colorado and predict what could happen in the future if we are not careful with our resources. Be prepared to share your answer with the class.

Redacte un ensayo explicando por qué los recursos hídricos son importantes en Colorado. Resumir el uso del agua en Colorado y predecir lo que podría suceder en el futuro si no tenemos cuidado con nuestros recursos. Esté preparado para compartir su respuesta con la clase.

IWBAT identify and describe ways that human activity affects surface water and ground water. I will do this through group discussion, watching relevant videos, filling out a concept map, and write a short essay using vocabulary such as pollution, resources, and predict.

Water Resources Unit

Unit 4: Chapter 3: Activity 6

I will research and describe the water treatment process used by my community and understand the stages of the filtration of water for public use. I will do this via online research, shared reading, and responding to questions using vocabulary such as purification, treatment, and pollution.

Voy a investigar y describir el proceso de tratamiento de agua utilizado por mi comunidad y comprender las etapas de la filtración de agua para uso público. Voy a hacer esto a través de la investigación en línea, la lectura compartida, y responder a las preguntas utilizando vocabulario como la purificación, el tratamiento y la contaminación.

Water Resources Unit

Unit 4: Chapter 3: Activity 6

Think About It / Piensalo - p. R196

Investigate Part C - p. R198

The materials you need are in the Activity 6 folder inside the Week 7 folder.

Investigar la Parte C - p. R198

Los materiales que necesita se encuentran en la carpeta Actividad 6 dentro de la carpeta Semana 7.

I will research and describe the water treatment process used by my community and understand the stages of the filtration of water for public use. I will do this via online research, shared reading, and responding to questions using vocabulary such as purification, treatment, and pollution.

Water Resources Unit

Unit 4: Chapter 3: Activity 6

Digging Deeper / Profundizando en el tema - R199

- Rainwater and groundwater are cleaned by bacteria and filtered of sediments by gravel & sand to provide clean drinking water. Evaporation and condensation separate the water from dissolved substances.
- Even when water is used carefully, pollutants are bound to be introduced. Most water passing through septic systems is not treated and can add pollutants to groundwater.
- Screening removes large particles, filtration removes smaller particles, and flocculation clumps really small particles together so they sink and can be removed.
- If water contains inorganic compounds that the filters miss, ion exchange can be used (e.g. arsenic). Aeration speeds up natural oxidation of organic matter and decomposition by microorganisms.
- Water is disinfected to kill remaining dangerous microbes before entering the distribution system. Sometimes the process produces byproducts from chlorine reacting with organic matter which can have adverse health effects long term. Scientists continue to study the issue. Residual chlorine helps protect against biological contamination in the distribution system.

I will research and describe the water treatment process used by my community and understand the stages of the filtration of water for public use. I will do this via online research, shared reading, and responding to questions using vocabulary such as purification, treatment, and pollution.

Water Resources Unit

Unit 4: Chapter 3: Activity 6

Digging Deeper / Profundizando en el tema - R199

- Primary treatment: settling & chlorination; Secondary treatment: filtering & oxidation by microorganisms - much better quality wastewater; Tertiary treatment: flocculation, disinfection, and additives for improving taste & appearance
- On average water costs ~\$2/1000 gallons
- Groundwater tends to be harder than surface water (more time in contact with rocks). Some hardness is good because Ca & Mg are essential nutrients. Hard water reduces soap suds and leaves deposits on faucets & water heaters. Water softeners replace Ca & Mg with Na, but higher sodium levels are bad for people with high blood pressure.

I will research and describe the water treatment process used by my community and understand the stages of the filtration of water for public use. I will do this via online research, shared reading, and responding to questions using vocabulary such as purification, treatment, and pollution.

Water Resources Unit

Unit 4: Chapter 3: Activity 6

Digging Deeper / Profundizando en el tema - R199

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Water Resources Unit

Unit 4: Chapter 3: Activity 6

Digging Deeper / Profundizando en el tema - R199

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Water Resources Unit

Due Monday, 10/23 noon

Debido lunes, 23/10 al mediodia

Day 1 Pro & Day 2 Con

IWBAT construct a three paragraph argumentative essay. I will do this through researching online the arguments for and against using dams on rivers, take relevant notes, and collaboratively document my sources. I will adhere to correct grammar and usage, transitions, citations, and use vocabulary such as dam, river, reservoir, and environment.

Directions in Schoology / Direcciones en Schoology

Dia 1 Favorable & Day 2 en Contra

Seré capaz de construye un ensayo argumentativo de tres párrafos. Haré esto a través de la investigación en línea de los argumentos a favor y en contra de usar represas en los ríos, tomar notas relevantes y documentar en colaboración mis fuentes. Me adheriré a la gramática correcta y al uso, transiciones, citas y uso del vocabulario como presa, río, embalse y ambiente.

Water Resources Unit

Due Monday, 10/23 noon

Debido lunes, 23/10 al mediodia

Days 3 & 4 Construct My Essay

IWBAT construct a three paragraph argumentative essay. I will do this through researching online the arguments for and against using dams on rivers, take relevant notes, and collaboratively document my sources. I will adhere to correct grammar and usage, transitions, citations, and use vocabulary such as dam, river, reservoir, and environment.

Directions in Schoology / Direcciones en Schoology

Dias 3 & 4 Construye Mi Ensayo

Seré capaz de construye un ensayo argumentativo de tres párrafos. Haré esto a través de la investigación en línea de los argumentos a favor y en contra de usar represas en los ríos, tomar notas relevantes y documentar en colaboración mis fuentes. Me adheriré a la gramática correcta y al uso, transiciones, citas y uso del vocabulario como presa, río, embalse y ambiente.